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ABSTRACT

This report documents the support museums of all types from art, history and children's museums to science centers and zoos provide to the nation's education of K-12 school children for 2000/2001. It is the second systematic survey of the range and scale of educational activities that museums provide in partnership with the nation's K-12 schools. The original survey looked at educational activities museums provided schools for 1995. Where possible, comparisons are reported between the two studies to show trends. Findings of this survey, which included 376 valid responses, revealed that: museums of all types and all sizes offer educational programs; cumulatively, museums spent over a billion dollars on K-12 educational programs in 2000-01, and provided millions of instructional hours; museums offer a wide range of learning activities that include not only visits, but pre- and post-visit services to students and teachers; resource kits and traveling exhibits, Web-based experiences and curricula, and in-service teacher training; museums serve students in all grades and in all regions of the nation, from inner cities to rural and suburban communities; museum teaching methods, curriculum fit, and resource materials are likely to be important influencers in a school's decision to partner with a museum, as are cost and convenience; partnerships use support and expertise from both institutions; museums provide many education programs specifically designed to support school curriculum standards and learning objectives; and most museums report that the number of students, teachers, and schools they serve has continued to increase since about 1991. (AEF)

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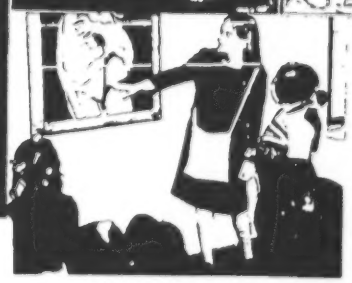

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2002 Survey Highlights

Cover photos courtesy of (*from top to bottom*) Palm Springs Desert Museum, The Madison Children's Museum, The Indianapolis Zoo, The Canton Museum of Art, The Discovery Center of the Southern Tier, and The Montgomery Museum of Fine Arts.

Dear Colleague,

I am proud to present True Needs True Partners 2002, examining the vibrant relationship between museums and schools. This publication provides a summary of the survey as well as a sampling of educational programs in a wide variety of museums from art to zoo. While museums continue to offer rich programming to children on site, increasingly they are reaching directly into the classroom and partnering with the classroom teacher. This is the second IMLS study on museums and schools; the first, reporting on a 1996 survey, was published in 1998.

Museums report continued increases in the number of schools, students, and teachers served in the past five years. Expenditures in support of K-12 education have grown to exceed a billion dollars annually. The median amount a museum spends on K-12 education has increased four fold in the past five years. Museums are true educational partners helping schools meet curriculum goals and teaching every subject from math, science and geography to history, art and social studies. They offer a wide range of programs and services from field trips and traveling exhibits to Web sites, videos and print materials.

Museums are important to the education of our children because they can connect students to ideas and experiences in direct, vivid, and meaningful ways. Learners can experience life as it was lived centuries ago, glimpse into the creative mind of a scientist, or explore faraway natural environments like rainforests, volcanoes or the Sahara. They can come to know the struggles and accomplishments of different cultures and unfamiliar people and achieve a deeper understanding of their own neighborhoods, the country in which they live, and the world.

I especially want to thank all of the museums that responded to this survey. I encourage museum professionals, educators, and policy makers to continue to work together so that every child will have the opportunity to experience museum resources. Together we can encourage a love of discovery and learning that can last a lifetime.

Sincerely,

Robert S. Martin, *Director*

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The educational role of museums is the focus of this study. Specifically, this report documents the support museums of all types from art, history and children's museums to science centers and zoos provide to the nation's education of K-12 school children for 2000/2001. It is the second systematic survey of the range and scale of educational activities that museums provide in partnership with the nation's K-12 schools. The original survey looked at educational activities museums provided schools for 1995. Where possible, comparisons are reported between the two studies to show trends.

The current survey sought information such as:

* *What characterizes museums that partner with K-12 schools?*
* *What museum resources are devoted to K-12 education?*
* *How do museums work with schools?*
* *What grades are served?*
* *Why do schools choose to partner with museums?*
* *Do museum educational programs coordinate with school curricula?*
* *How has museum service to schools changed over the past five years?*

We found that:

* *Museums of all types and all sizes offer educational programs.*
* *Cumulatively, museums spent over a billion dollars on K-12 educational programs in 2000-01, and provided millions of instructional hours.*
* *Museums offer a wide range of learning activities that include not only visits, but pre- and post-visit services to students and teachers; resource kits and traveling exhibits, Web-based experiences and curricula, and in-service teacher training.*
* *Museums serve students in all grades and in all regions of the nation, from inner cities to rural and suburban communities.*
* *Museum teaching methods, curriculum fit, and resource materials are likely to be important influencers in a school's decision to partner with a museum, as are cost and convenience. Partnerships use support and expertise from both institutions.*
* *Museums provide many education programs specifically designed to support school curriculum standards and learning objectives.*
* *Most museums report that the number of students, teachers, and schools they serve has continued to increase since about 1991.*

How Much Educational Programming are Museums Providing for Schools?

Every museum discipline provides educational programs for the K-12 school audience, and this programming is offered across the spectrum of urban, suburban, and rural settings. The grade levels museums serve and the range of programs they offer parallel those of five years ago, but in the interim museums have added electronic technology to their toolkits. This technology was not widespread enough to be included in the last survey—now, of course, a growing number of museums provide online, electronic mail, and CD-based resources.

In 2000-01 nearly 70% of responding museums said the number of schools, students, and teachers they serve had grown in the past five years. IMLS estimates nearly 11,000 museums were offering such programs in 2000-01.

Below and right: Children in Pittsburgh area schools connect with arts with help from the Pittsburgh Center for the Arts.

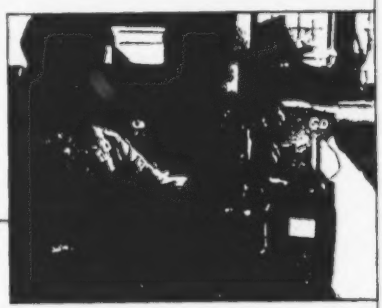
Pittsburgh Center for the Arts—
Arts-in-Education

With financial assistance from IMLS, the Pittsburgh Center for the Arts in Pennsylvania, has become a significant local resource for area schools. The Center's three-phase school partnership plan provides various levels of involvement for teachers, administrators, and students with offerings ranging from teacher workshops and individual arts-based projects to whole-school participation arts-based learning. Among the education department's special-needs offerings, is a 12-15 month vocational training program for people with mental or physical disabilities. This program, the first of its kind in the country, offers fine arts classes, taught by professional artists, that lead to certificates in Illustration and Decorative Painting.

Together, U.S. museums provided more than 18,337,800 instructional hours in 2000-01.

Which Students are Museums Serving?

Museums are serving students in every grade level from kindergarteners to seniors in high school. They report that nearly every type of program offered to school partners shows a steady increase in student participation from 1995 to 2000-01. Museums' greatest contributions appear to be in the elementary grades. The fourth grade continues to be the grade level with the highest participation in museum programming.



Lindsay Wildlife Museum—
Cross-age Mentoring Builds Confidence in Teens

For nearly 50 years the Lindsay Wildlife Museum of Walnut Creek, California, has offered education and outreach programs that have touched the lives of young people. One IMLS-funded program benefits some of the most at-risk high school students. The museum's Nueva Vista Partnership is with Small Necessary High Schools, schools of last resort for students who fall behind because of major life obstacles. After a year-long education training program at the museum, the youth use their new knowledge to create and present environmental education activities for local third-grade classes. With much of the control and decision-making in the hands of the youth, one museum specialist noted, the cross-age mentoring "provides them [high school students] with a rare opportunity to be proud of who they are and what they can contribute."

Rancho Santa Ana Botanic Garden—
Technology Links Urban Teachers with the Natural Sciences

California is experiencing an influx of new teachers. Rancho Santa Ana Botanic Garden of Claremont, California, used IMLS funding to address new teachers' needs for natural science resources that enable teachers and students to meet the new state science content standards. CAL Alive is a multimedia curriculum supplement that lets students in grades 4-8 explore the rich biological diversity of the state. With CD-ROMs, a classroom and resource guide, a field investigation handbook, teacher training, and an interactive Web site, the CAL Alive package creates opportunities for students to learn about every major ecological community in the state and to conduct virtual and real-life lab and field experiments. Rancho Santa Ana Botanic Garden has partnered with local school districts to provide training in life and earth sciences using the Cal Alive materials.

Discovery Center of the Southern Tier—
Science Lab on Wheels

It's hard to miss the Science & Discovery Center's mobile science laboratory when it's on the streets of Chemung County, New York. The customized Winnebago, dubbed "H_20 2 Go," sports colorful graphics and facts about water. Designed for middle school students, the van contains experiment stations in chemistry, earth science, biology, and engineering, and travels with two state certified museum educators who work with the classrooms it visits. The Center used IMLS funds to hire certified teachers. The new education staff members work to ensure that all of the museum's education programs meet state standards for math, science, and technology.

Above and right: Young children from impoverished neighborhoods in Binghamton, New York make friends and learn together at an after-school program of the Discovery Center of the Southern Tier and the city school district.

Later grades continue as an area of potential growth for museum educational programming.

The most recent National Center for Education Statistics study found that 850,000 K-12 students were home schooled in 1999 and about 15% of respondents in this survey offer some programs specifically to support home schooling.

What Museum Resources are Devoted to K-12 Education?

The median museum expenditure for K-12 educational programs was $22,500 in 2000-01. This represents 12% of the median museum annual operating budget, four times the 3% reported in 1995. Museums clustered around the median operating budget spent the highest percentage of their budget on educational programs.

Not surprisingly, museums with larger operating budgets offer more instructional hours than museums with more modest resources. The largest number of museums that reported budgets in the top 25% of the sample were urban, and rural museums represented the largest portion of the lowest 25% of both budgets and instructional hours.

Almost 75% of responding museums formally evaluate one or more of their K-12 educational programs, and about half of these museums evaluate all such programs. Most of their evaluation focuses on the quantity of programs and participants, but nearly 50%

Effie Yeaw Nature Center—*School Tours Fit Naturally with State Standards*

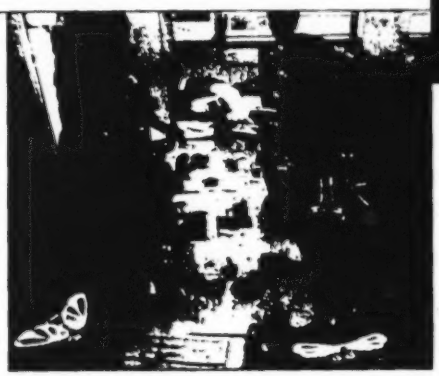
When preschoolers attend a school tour at the Effie Yeaw Nature Center of Carmichael, California, all of their senses are put to the test. They feel animal skins, hear birdcalls, smell the mugwort herb, and look at bird specimens. The Sensory Awareness tour and the museum's other school tours and outreach programs were recently revised by the museum with IMLS funding to better conform to new California State Science Content Standards. Nature Center staff carefully compared the content of its programs for school children to state requirements for each relevant grade level, identifying concepts covered and new concepts to add. They now can explain to teachers how their programs align with student and teacher needs.

Detroit Zoological Society— *Passport to Adventure at the Library and Zoo*

Four Detroit libraries serving disadvantaged neighborhoods were the sites for the Passport to Adventure at the Library and Zoo (PALZ) project. Nearly 150 elementary school children attended sessions at their branch libraries, working through "field guides" created by librarians and Detroit Zoo staff with funding from IMLS. The research assignments, Internet searches, games, and crafts in the field guide workbooks helped the children learn about the world's diverse habitats. As the children completed each of the guides, they earned incentive prizes and passes to attend zoo field-trips. The program brought the latchkey children twenty-four weeks of fun and improved skills that support academic achievement and lifelong learning.

Roswell Museum and Art Center—*Discovery Boxes for Rural Schools*

New Mexico's Roswell Museum and Art Center is making some of its educational programs for elementary and secondary schools available "to go." With funds from IMLS, the museum has put three thematic outreach programs together and packaged them in Discovery Boxes that can be checked out by public and private schools in Roswell and by rural schools in south-eastern New Mexico. Based on the themes of masks of the world, art basics, and architecture of the past and present, the boxes provide interdisciplinary curriculum materials, classroom-based activities, maps, photographs, reproduction objects, CD ROMS, books, videos, and much more to broaden young minds.



Above, right and left: Four Detroit libraries and the Detroit Zoological Society join forces to support academic achievement for elementary school children.

of museums in the survey evaluate enhanced understanding of the target subjects and some museums measure improved classroom behavior (10%) or academic performance (13%).

How are Museums Working with Schools?

Museum visits remain the most common educational activities, but many responding museums offer programs to enrich or build on museum visits. These programs include school visits by museum staff or volunteers, pre-visit activities to build links with classroom studies, and in-service training and orientation for teachers.

Smaller numbers of museums offer many other activities, such as traveling exhibits (17%), sequenced or multiple museum visits (22%), and print and electronic educational materials (23%). Such programs can be extensive and creative—among those mentioned were living history and archaeology events, hands-on workshops and history essay contests, artists' residencies in schools, overnight programs, and on-board oceanography experience.

Old Sturbridge Village—
Popular Curriculum Units Bring History to Life

Old Sturbridge Village is popular among Worcester, Massachusetts fifth-graders. Each of the city's fifth-grade classes takes a field trip to the recreated 1830's community, studies primary source documents, and explores the diverse society of early New England life through the museum's *Reading and Writing About History* curriculum unit. The museum has built partnerships with area urban schools using its interdisciplinary curriculum units. With IMLS funds Old Sturbridge Village is improving its offerings and aligning them with state and national learning standards. It added a new middle school curriculum unit on the theme *Coming of Age: What Does It Mean To Be An American* and it updated its popular "Town Meeting" middle school program.

Electronic technologies have added a new suite of resources to museums' educational programs. More than 72% of the responses to questions about technology in support of K-12 programs indicated the use of Web sites as an educational tool and nearly 58% said they communicated to teachers via e-mail (24% listed e-mail to students).

A complementary 2001 IMLS survey of museum and library technology capacities indicated that only a small number of museums are providing video tours (7%) or virtual reality tours (4%) at present. Both surveys indicate that museums with the smallest budgets are least likely to include electronic technology among their educational tools.

Below and right: The Madison Children's Museum brings together children from four schools to learn about Meso-America and Mexico.

Why Do Schools Partner with Museums?

Museums continue to find that enrichment of learning, the opportunity to encounter rare and unusual objects, informal and hands-on learning experiences, and responsiveness to teachers are the characteristics of museum educational programs most likely to be attractive to schools.

Madison Children's Museum—*Cultural Exchange through Mobile Museums*

Hundreds of students in Madison, Wisconsin, discovered for themselves what it takes to curate, design, and build a professional museum exhibit. High school students, guided by their teachers, museum staff, and instructors at the University of Wisconsin, created an oversized reproduction of a Mayan codex—an ancient manuscript using hieroglyphic characters—that visitors could step into to learn about the civilization's cosmology and culture.

Through the "Sin Fronteras" project, students at four schools collaborated with musicians, artists, and scholars to create exhibits on immigration, pop culture, village life, and the Latin American marketplace and to learn about Meso-America and Mexico. With aid from IMLS, the museum created an on-going dialog with teachers, the university, and the community for this unique cultural learning opportunity.

In the opinion of museums, modest cost and the availability or schedule of museum programs remain the most significant factors that influence schools to partner with them.

Museum respondents continue to report that teachers most influence a school's decision to use museum resources. On the museum side, directors are perceived to have the most influence on whether a museum decides to partner with schools, with education staff running a close second.

Oakland Museum of California—*Reclaiming Latino History*

The history of Mexican-Americans and Latinos in Oakland and Hayward, California, is slipping away. The record of their achievement exists mainly in the memories of community elders, in private family collections, and in the informal archives of local Latino organizations. The Oakland Museum of California partnered with the California Puente Project, the Spanish Speaking Citizens' Foundation, and the University of California in highly innovative after-school, summer, and museum internship programs. With funding from IMLS grants, the partners helped Latino youth serve as junior historians to collect, preserve, and exhibit the community history of their people. The youth worked with professional historians conducting original research and using it for a poster series, a special exhibition, and a project Web site.

http://www.imls.gov/closer/archive/hlt_m0300.htm

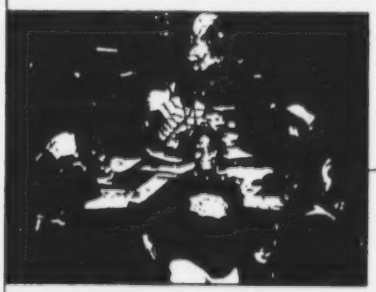
Montgomery Museum of Fine Arts—*Art in the Afternoon*

Education staff at the Montgomery, Alabama, Museum of Fine Arts realized that the museum was not a typical after-school destination for youth of the city's low-income, high-crime West Side neighborhoods. The museum obtained an IMLS grant to bring art awareness to these children. Through Art in the Afternoon, the museum offered weekly after-school art lessons at five "at risk" elementary and junior high school sites, organized fieldtrips to the museum, and held special events and student exhibits. The students were given an alternative to "hanging out" after school and learned that art can be a positive form of self-expression. They were proud that their artwork was used to illustrate the project's free lesson plan book, and teachers noted greater self-esteem and confidence in the students and dramatically improved classroom behavior.

Do Museum Education Programs Coordinate with School Curricula?

A range of people in both museum and school organization share responsibility for developing museum program educational content, but 71% of museums reported that they coordinate with school curriculum planners. Museum education staff has the greatest overall responsibility for initiating and sustaining museums' school programs.

The pattern of responses to the integration of core school subjects into museum educational programs



Minnesota Historical Society—*Online Access to Primary Source Learning*

The Minnesota Historical Society used the power of the World Wide Web to make primary source materials accessible to students. With funding from IMLS, the museum created Web sites that address national and state learning standard requirements for inquiry skills and use of primary historical resources. "Forests, Fields, and the Falls, Connecting Minnesota," uses a graphic arts approach to tell the story of industrial development at the Falls of St. Anthony. "TimePieces" presents an online timeline of the state's past, with links to images of items from the museum's collections. The Web sites feature interactive learning activities that bring history to life, such as "History Mystery," in which students sleuth through primary source "evidence" and form conclusions about items related to an historical event or entity.

http://events.mnhs.org/Timepieces/Index.cfm

Lehman College Art Gallery—*Public Art in the Bronx*

Residents of the Bronx, New York, can find public art in every corner of the borough: in schools, fire stations, libraries, government buildings, subway stations, and parks. With assistance from an IMLS grant, the Lehman College Art Gallery developed an online reference guide to public art in the Bronx that helps elementary school teachers create lessons not only in art, but also in civics, history, and other disciplines. The Web site links users to biographical information about 111 artists, descriptions of 87 sites where art can be viewed, and the histories of 35 neighborhoods. A recent workshop for public school teachers explored ways to incorporate the site's many resources, including walking tours and lesson plans, into their curricula.

http://ca80.lehman.cuny.edu/gallery/web/AG/

was almost identical from 1995 to 2000-01. Social studies was most commonly mentioned as a target, followed by art, science, and language arts.

Museums are almost evenly divided on whether or not state-based educational reform or standards of learning have impacted their K-12 educational programs. However, 62% of museums rank their capacity to help students meet standards of learning as a strong to moderate influence in school decisions to use museum resources. Of the museums that report education reform impacted their educational programming, nearly two-thirds say the impact has been in increased service to teachers, number of school partners and number of student visits to the museum.

Above and left: Elementary and junior high students create and learn about "Art in the Afternoon" at the Montgomery Museum of Fine Art.

The 2000-01 survey confirms that museums and schools actively partner to educate new generations of citizens. IMLS recognizes the importance of continuing to measure museums' contributions to the education of K-12 students. We hope that systematic collection of such information will help museums make informed decisions about their operations and resource allocation in the context of trends throughout the museum field. Such data can also help school organizations, parents, community leaders, policy makers, and potential funders direct resources and enthusiasm to the rich relationship between classrooms and museums. As a complement to this quantitative information, we encourage museums to systematically evaluate the impact of their educational programs and to communicate the impact of the work they do with schools.

The 2000-01 survey suggests a number of additional questions for consideration by the museum community. These questions might serve to spur museums to do research through IMLS grant programs:

* *What are the outcomes of museum-school partnerships for students and teachers? What do students gain from these learning experiences, and how can those benefits be documented?*
* *We know the middle elementary grades (third through fifth) are the most heavily served. How can both younger and older students (and their teachers) be better or differently served? What teaching methods or program structures can museums provide to meet the particular needs of these students?*
* *What can be done to assist smaller museums to expand their use of technology in support of education? Budget is clearly a factor, but are there others?*
* *What are the educational results of technology advances in museums? How can a museum's use of technology complement both museum-based educational programs, as well as classroom teaching?*
* *How can technology translate the unique experiences and benefits of museum education, i.e., object-based and visual learning skills? How might technology extend the benefits of museum resources to students and teachers outside the economic or geographic range of a museum?*
* *How can teachers contribute their ideas to these questions? How might this report become a catalyst for engaging the formal education community in building museum and school partnerships?*
* *How might IMLS use this report and the questions it stimulates to strengthen its planning and the development of programs and activities that enhance the museum/school connection?*

IMLS invites your response to these questions and to the results of this report. As the federal agency serving museums, IMLS is committed to sharing and strengthening the outstanding and vital role museums play in supporting formal education. Your comments and ideas are essential to helping IMLS continue to meet the needs of museums in this essential work.

Acknowledgements

These museum professionals provided valuable suggestions for the survey: Penny Cole, Arnot Art Museum; Adrienne Cachelin, Red Butte Gardens and Arboretum; Liselle LaFrance, Historic Cherry Hill; Tracy Kay, Schuylkill Center for Environmental Education; Ian Luth, Museum of Science and Industry; Darchelle Garner, Chicago Children's Museum; Susan Engler, Cheyenne Mountain Zoo; Connie Burhman, Stearns History Museum; Ruth Shelley, San Diego Natural History Museum.

The survey was administered and data entry and analysis was managed by the Center for Organizational Excellence, Rockville, MD.

A copy of the full report is available by writing: Institute of Museum and Library Services, 1100 Pennsylvania Ave., NW, Washington, DC 20506, calling 202/606-8536, or by email at: imlsinfo@imls.gov.

A Note on Methods

The survey includes 376 valid responses for an overall confidence level of 95% ±5%. Because not all responders answered every question, the confidence for individual questions may be lower. The survey included responses from a few very large institutions; one museum reported 36,000,000 instructional hours for K-12 students, and a budget of $240,000,000 in 2000-01. Because atypical responses like this can weight results heavily, we typically report the median response (the museum response exactly in the middle of all responses) to a question, rather than the mean (the average of all responses). In addition, if any single response was ten times greater than the next highest response, the response was considered an "outlier" and was removed from calculations *before findings were projected to all museums*. We believe this decision allows us to project overall museum activity more accurately and more conservatively. With these caveats, we feel confident that the general profile of museum-school educational partnerships provided here is accurate and reliable.

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